

REPORT ON BOILERS.

No. 104073

21 NOV 1946

Received at London Office

Date of writing Report 19 11 19 46 Port of **NEWCASTLE-ON-TYNE**

No. in Surrey held at **Newcastle on Tyne** Date, First Survey (1945) **June 26th** Last Survey **Oct. 31st** 19 46

85891 on the **M. V. BRITISH EARL** (Number of Visits **112**) Tons { Gross **8573.44** Net **4908.97**

Built at **Walker** By whom built **Swan Hunter & Wigham Richardson Ltd** Yard No. **1772** When built **1946**

Engines made at **Neptune Works - Walker** By whom made **Swan Hunter & Wigham Richardson Ltd** Engine No. **1772** When made **1946**

Boilers made at " By whom made " " " Boiler No. **1772** When made **1946**

Nominal Horse Power **267** Owners **British Tanker Co Ltd** Port belonging to **London**

MULTITUBULAR BOILERS - ~~MAIN~~, ~~AUXILIARY~~, OR DONKEY.

Manufacturers of Steel **Colvilles Ltd** (Letter for Record **S**)

Total Heating Surface of Boilers **4010 sq ft** Is forced draught fitted **Yes** Fuel - Oil fired **Waste Heat**

No. and Description of Boilers **Two single ended multitubular** Working Pressure **150 lbs/sq in**

Tested by hydraulic pressure to **275 lbs/sq in** Date of test **1-5-46** No. of Certificate **S-1204** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **7.76 sq ft** No. and Description of safety valves to each boiler **2 - Spring loaded - Lockburns Improved H.L.**

Area of each set of valves per boiler (per Rule **7.76** as fitted **9.80**) Pressure to which they are adjusted **150 lbs/sq in** Are they fitted with easing gear **Yes**

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **Yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **2'-0"** Is oil fuel carried in the double bottom under boilers **No**

Smallest distance between shell of boiler and ~~deck~~ ^{deck} plating **3'-6"** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **12'-9"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **30-34 Jones**

Thickness **27/32"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams **D.R.L.J.**

long. seams **T.R.D.B.S.** Diameter of rivet holes in (circ. seams **15/16"** long. seams **7/8"**) Pitch of rivets **2'-9"**

Percentage of strength of circ. end seams (plate **68.18** rivets **42.56**) Percentage of strength of circ. intermediate seam (plate **85.41** rivets **85.36**)

Percentage of strength of longitudinal joint (plate **85.41** rivets **85.36** combined **87.90**)

Thickness of butt straps (outer **21/32"** inner **25/32"**) No. and Description of Furnaces in each Boiler **2 Deighton Type**

Material **Steel** Tensile strength **26-30 Jones** Smallest outside diameter **3'-9 3/4"**

Length of plain part (top **1/2"** bottom **1/2"**) Thickness of plates (crown **1/2"** bottom **1/2"**) Description of longitudinal joint **Yes**

Dimensions of stiffening rings on furnace or c.c. bottom **Yes**

End plates in steam space: Material **Steel** Tensile strength **26-30 Jones** Thickness **1"** Pitch of stays **18" x 14 1/4"**

How are stays secured **Screwed into plates + nuts outside only**

Tube plates: Material (front **Steel** back **Steel**) Tensile strength (front **26-30 Jones** back **26-30 Jones**) Thickness (front **7/8"** back **3/4"**)

Mean pitch of stay tubes in nests **9 3/8"** Pitch across wide water spaces **13 1/2"**

Girders to combustion chamber tops: Material **Steel** Tensile strength **28-32 Jones** Depth and thickness of girder

at centre **8 1/4" x 1 1/4"** Length as per Rule **2'-8 19/32"** Distance apart **8 7/8"** No. and pitch of stays

in each **2 @ 10"** Combustion chamber plates: Material **Steel**

Tensile strength **26-30 Jones** Thickness: Sides **5/8"** Back **23/32"** Top **5/8"** Bottom **5/8"**

Pitch of stays to ditto: Sides **10" x 8 1/4"** Back **9 1/4" x 8"** Top **10" x 8 1/8"** Are stays fitted with nuts or riveted over **Yes**

Front plate at bottom: Material **Steel** Tensile strength **26-30 Jones**

Thickness **7/8"** Lower back plate: Material **Steel** Tensile strength **26-30 Jones** Thickness **7/8"**

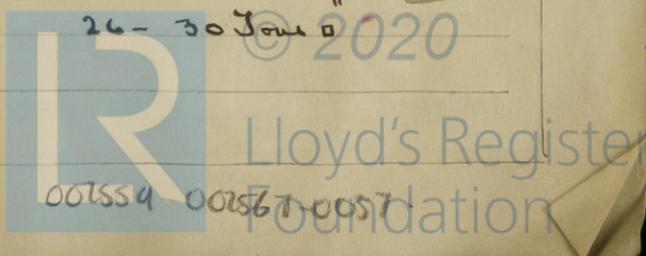
Pitch of stays at wide water space **15" x 7 1/2"** Are stays fitted with nuts or riveted over **Nuts**

Main stays: Material **Steel** Tensile strength **28-32 Jones**

Diameter (At body of stay **2 5/8"** or Over threads **2 3/8"**) No. of threads per inch **6**

Screw stays: Material **Steel** Tensile strength **26-30 Jones**

Diameter (At turned off part **1 1/2"** or Over threads **1 1/2"**) No. of threads per inch **9**



Are the stays drilled at the outer ends No Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{5}{8} + \frac{3}{4}$

No. of threads per inch 9

Tubes: Material Seamless steel External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \frac{2\frac{1}{2}}{2\frac{1}{2}}$ Thickness $\frac{10W.G.}{5/16 + 1/4}$ No. of threads per inch 9

Pitch of tubes $3\frac{3}{4} \times 3\frac{3}{4}$ Manhole compensation: Size of opening in shell plate 20×16 Section of compensating ring $2\frac{1}{32} \times 20\frac{1}{2}$ No. of rivets and diameter of rivet holes $38 \times 1\frac{1}{8}$

Outer row rivet pitch at ends 0 Depth of flange if manhole flanged $2\frac{1}{2}$ Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \frac{100}{100}$

Internal diameter Thickness of crown No. and diameter of stays Inner radius of crown

How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater _____ Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$

Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____

Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____

Area of each safety valve _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____

Pressure to which the safety valves are adjusted _____ Are the safety valves fitted with casing gear _____

tubes _____ forgings and castings _____ and after assembly in place _____ Hydraulic test pressure: _____

valves fitted to free the superheater from water where necessary _____ Are drain cocks or _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

The foregoing is a correct description,
T.H. Jones Manufacturer.

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building} \end{array} \right. \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \text{See Machinery Report}$

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes

Total No. of visits 1

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been built under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good. Hydraulic test satisfactory. They have been efficiently installed & fixed on vessel, examined under steam & their safety valves adjusted to the approved pressure.

Survey Fee ... £ _____ When applied for, 19 _____

Travelling Expenses (if any) £ See Machinery Report When received, 19 _____

J. H. Matthews
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI 13 DEC 1946

Committee's Minute _____

Assigned See F.E. mch. rpt.



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